

JULY 2019



**WIM #31  
US 2, MP 8.0  
EAST GRAND  
FORKS, MN**

**MONTHLY  
REPORT**



*Your Destination...Our Priority*



## WIM Site Location

WIM #31 is located on US 2 near East Grand Forks in Polk county.

## System Operation

WIM #31 was operational for the entire month of July 2019. Volume was computed using all monthly data.

## System Calibration

WIM #31 was most recently calibrated on 2016-11-01. Table 1 summarizes the front axle weights of class 9s by lane <sup>1</sup>. Figure 1 shows the distribution of gross vehicle weights (GVW) in Class 9 vehicles at this site for the last 12 months of operation <sup>2</sup>. Figure 2 depicts the average front axle weight as a percent difference from the first full month following calibration.

## Summary of Volume Statistics

Total Monthly Volume: 183848 | Passenger Vehicles: 168763 | Heavy Commercial Vehicles: 15085

Monthly Average Daily Traffic (MADT): 5953 | Monthly Heavy Commercial Average Daily Traffic (MHCADT): 487

See Table 2 for vehicle class breakdown

## Passenger Vehicles (PVs) and Heavy Commercial Vehicles (HCVs)

**Volume trends.** EB vehicles typically reached highest volume levels on Fridays, with lowest volumes reported on Sundays. WB vehicles typically reached highest volume levels on Sundays, with lowest volumes reported on Saturdays (see Figure 3 and 4).

### Passenger Vehicles (PVs)

**Volume trends.** On an average 24-hour day (see Figure 5), EB PVs generally reached peak volume levels between 03 PM and 05 PM. Similarly, WB PVs peaked in volume between 03 PM and 05 PM

### Heavy Commercial Vehicles (HCVs)

**Volume trends.** On an average 24-hour day, HCVs traveling EB typically reached peak volume levels between 03 PM and 05 PM, while volume going WB peaked between 03 PM and 05 PM. See Figure 6. Out of all HCVs, the two highest traffic volumes were generated by Class 9's and Class 5's.

### Overweight HCVs

**Volume trends.** Of a total of 15085 HCVs, 1387 of them were overweight <sup>3</sup>. These overweight HCVs contributed to 0.8% of total monthly volume, and 9.4% of total monthly

HCV volume. EB overweight vehicles typically reached highest numbers on Tuesdays, with lowest volumes reported on Saturdays. WB overweight vehicles tended to reach highest volumes on Tuesdays, with lowest volumes reported on Sundays. See Figure 3 .

The top two overweight violators by class were the class 10 and class 13 vehicles . Overall, overweight vehicles tended to reach peak volume concentrations during typical business hours, with 71.6% of all overweight vehicles traveling WB this month (see Figure 7 & 8). Figure 9 shows the number of vehicles exceeding 88,000 pounds that crossed the WIM over the last 12 months. The highest number of 88,000+ vehicles within the last 12 months occurred in June.

WIMs are currently used as a screening tool for weight enforcement, and it is estimated that the WIM scales can measure gross vehicle weights (GVW) within 90-95% of static weight scale measurements. Due to the possibility of measurement error, vehicles exceeding 10% of their legal weight limits (or 1.1 times their legal weight limits) are considered overweight in this report <sup>4</sup>.

Using normal load limits ,70 EB vehicles exceeded 88,000 pounds (47 vehicles were Class 13's; 20 vehicles were Class 10's). Of vehicles traveling WB,

204 EB vehicles exceeded 88,000 pounds (141 vehicles were Class 13's; 61 vehicles were Class 10's). Refer to Table 3 for the Top 10 highest recorded GVWs from Classes 9 and 10 from July 2019.

**Loaded vs. Unloaded HCVs.** Figure 10 shows the GVW distributions of Class 9s and 10s in July 2019. Data suggests that there were greater numbers of fully\_loaded Class 9's than empty Class 9's traveling EB, while there were more fully\_loaded Class 9's than empty traveling WB. Data also suggests that there were more empty Class 10's than fully\_loaded traveling in the EB direction. In the WB direction, there were more fully\_loaded class 10 vehicles.

**Freight Totals.** A total of 108734 tons of freight was recorded to have crossed the WIM. More freight was shipped WB (60%) than EB (40%). See Table 4 and Figure 11 for more freight information.

####**Infrastructure Considerations Bridge.** Bridge No. 8023 (a box culvert) is approximately 14.6 miles east of WIM #31, and Bridge No. 4700 is 6.4 miles west of WIM #31. WIM #31 recorded a total of 183848 vehicles with a combined GVW of 1380246 kips (1 kip = 1,000 pounds = 0.5 tons) in July 2019. See Table 5 and Figures 12-13 for GVW information by vehicle class and lane.

**Pavement Design.** A total of 8318 equivalent single axle loads (ESALs) passed over the pavement at this site. Approximately 54.1% of all ESALs were recorded WB while 45.9% was observed EB. In particular, 45% of all ESALs were generated by the Class 9's (Class 9's were also responsible for generating 18% of total GVW observed this month). See Table 6 and Figures 14-15 for more information on ESALs (Table 6 also provides flexible ESAL factors for each vehicle class using a terminal serviceability of 2.5 and a structural number of 5).

#####WIM monthly reports can be found at:

<http://www.dot.state.mn.us/traffic/data/reports-monthly-wim.html> MnDOT's vehicle

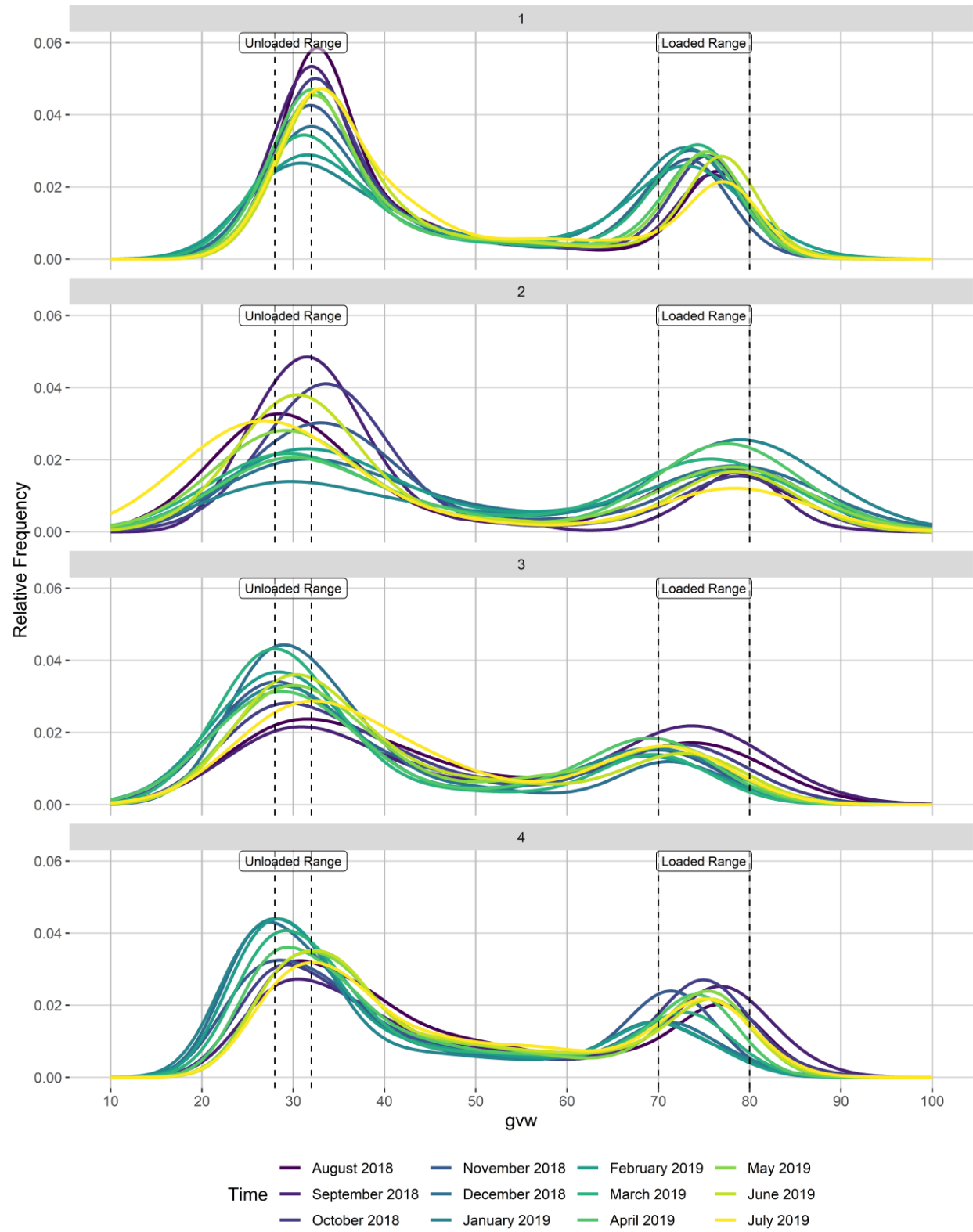
classification scheme and vehicle class groupings for traffic forecasting can be found at:  
<http://www.dot.state.mn.us/traffic/data/data-products.html#weight>

- <sup>1</sup> Front axle weights of Class 9s are monitored on a monthly basis to assure performance between calibrations. The current goal of the WIM scale calibration is to have each individual axle weight stay within a range of ±9% of baseline calibration values
- <sup>2</sup> Previous WIM research indicates that unloaded Class 9s typically weigh 28-32 kips, while loaded Class 9s generally fall in the 70-80 kip range. More recent data from several WIM sites suggests that the unloaded Class 9 range may have moved a little higher over time (due to increased presence of sleeper cabs, etc.), although these ranges are also thought to be site-specific.
- <sup>3</sup> An HCV is considered overweight during normal load limits in this report if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 80,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 20,000 pounds; tandem axles spaced 8' or less = 34,000 pounds; tridem axles spaced 9' or less = 43,000 pounds; quad axles spaced 13' or less = 51,000 pounds). Monthly reports use this standard regardless of the time of year however, the Winter Load Increase (WLI) allows a 10% across the board increase in axle and gross vehicle weights without a permit on US, state routes, and county roads. An HCV is considered overweight during Winter Load Increase(WLI) if they satisfy any of the following 1) exceed a gross vehicle weight (GVW) of 88,000 pounds, 2) exceed any of the legal weight maximums on any axle configurations (legal maximums are: single axle = 22,000 pounds; tandem axles spaced 8' or less = 37,400 pounds; tridem axles spaced 9' or less = 47,300 pounds; quad axles spaced 13' or less = 56,100 pounds). An overweight HCV is only included once in the overweight volume calculations regardless of how many of the aforementioned conditions are violated. For information on MN weight limit dates and statutes:  
[http://www.mrr.dot.state.mn.us/research/seasonal\\_load\\_limits/sllindex.asp](http://www.mrr.dot.state.mn.us/research/seasonal_load_limits/sllindex.asp)
- <sup>4</sup> For example, Class 9s and 10s can legally have gross vehicle weights up to 80,000 lbs (with the exception of permitted loads) during normal load limits. To account for measurement error on the WIM scales, those exceeding 10% of the legal GVW maximum (or 1.1 times the legal GVW) should be screened (e.g., 80,000 lbs + 8,000 lbs = 88,000 lbs). Similarly during WLI vehicles weighing 96,800 lbs should be screened.

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Figure 1 - Monthly Class 9 GVW Histogram



Months that have not passed QC parameters are not displayed

Figure 2 - Percent Difference of Front Axle Weight from  
Last Calibration (+/- 95% CI)

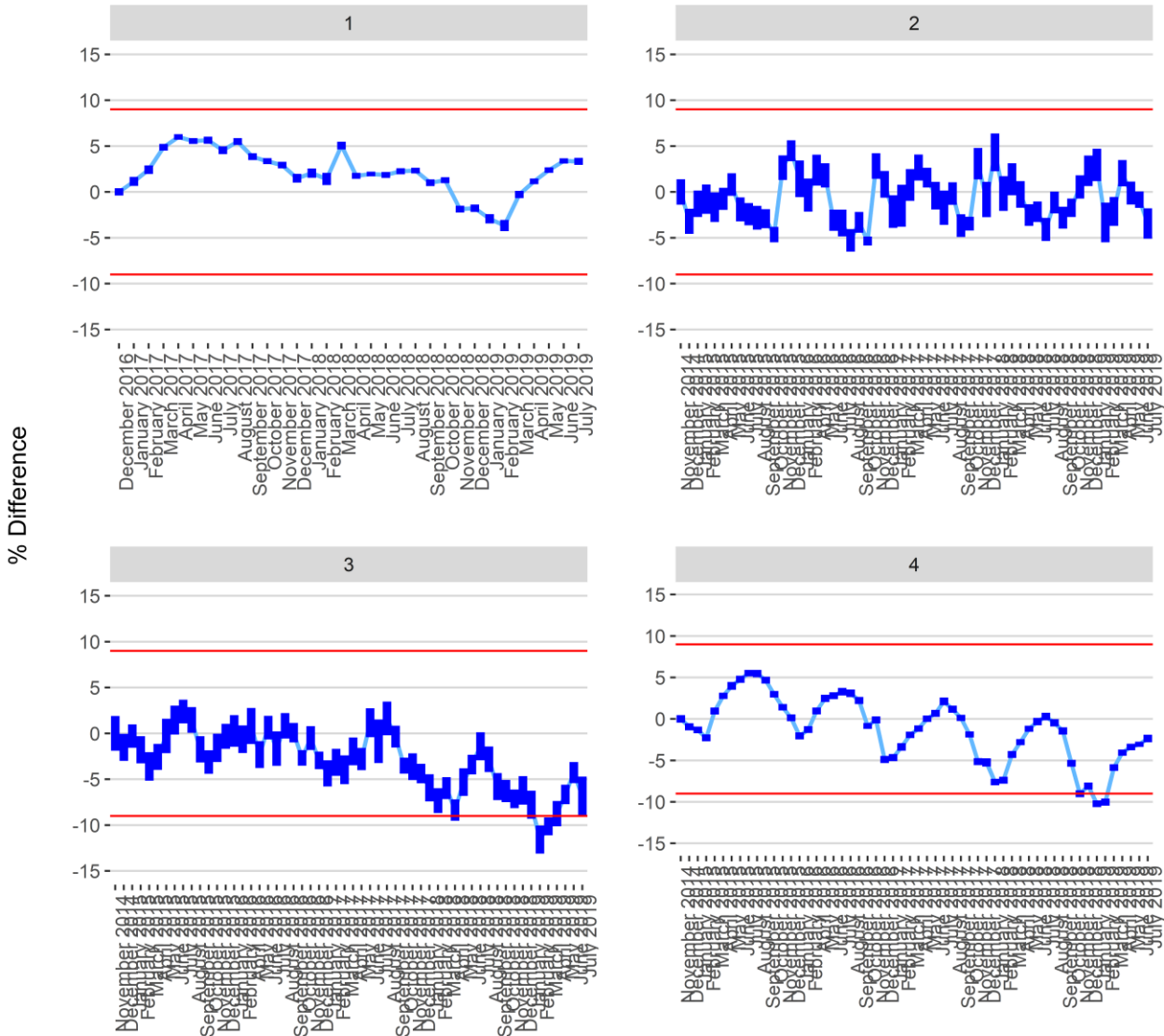


Figure 2 - Average Vehicle Volume  
vs. Day of the Week

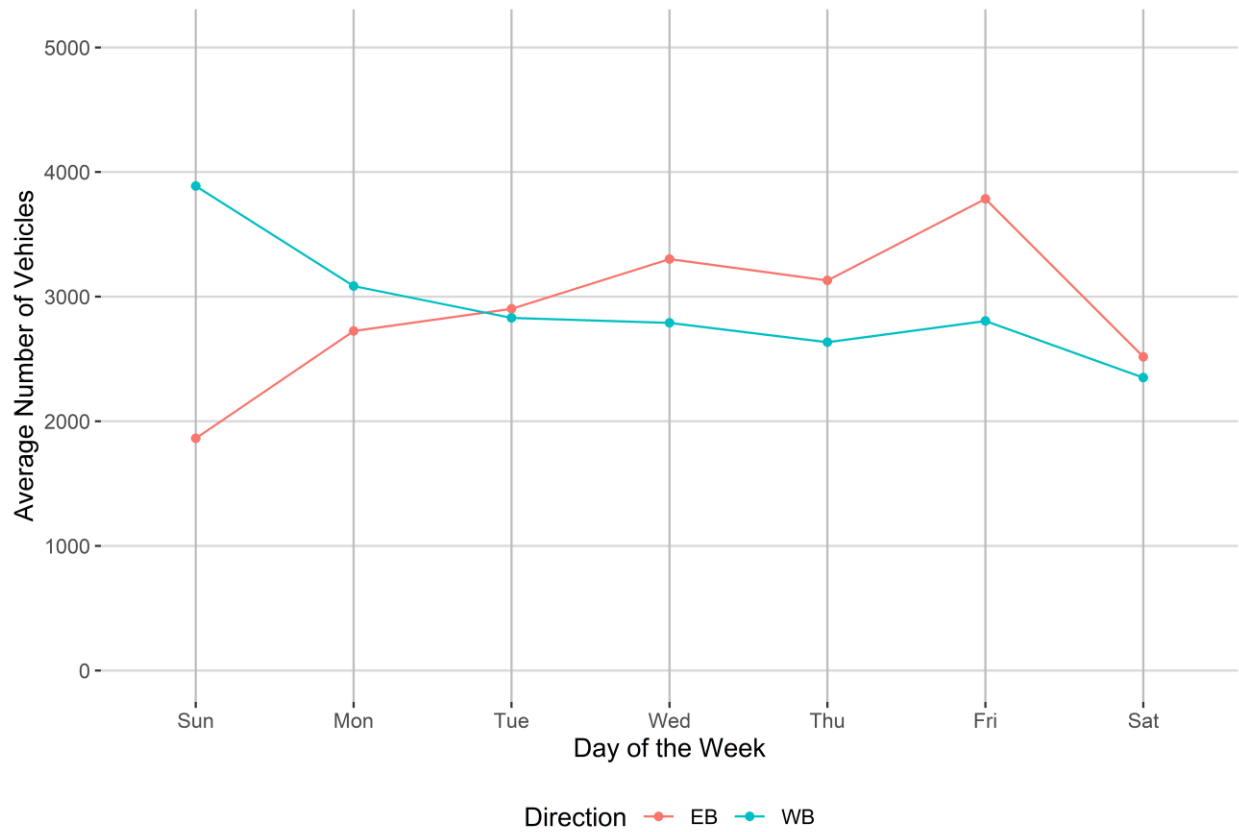


Figure 3 - Average Overweight Vehicle Volume  
vs. Day of the Week

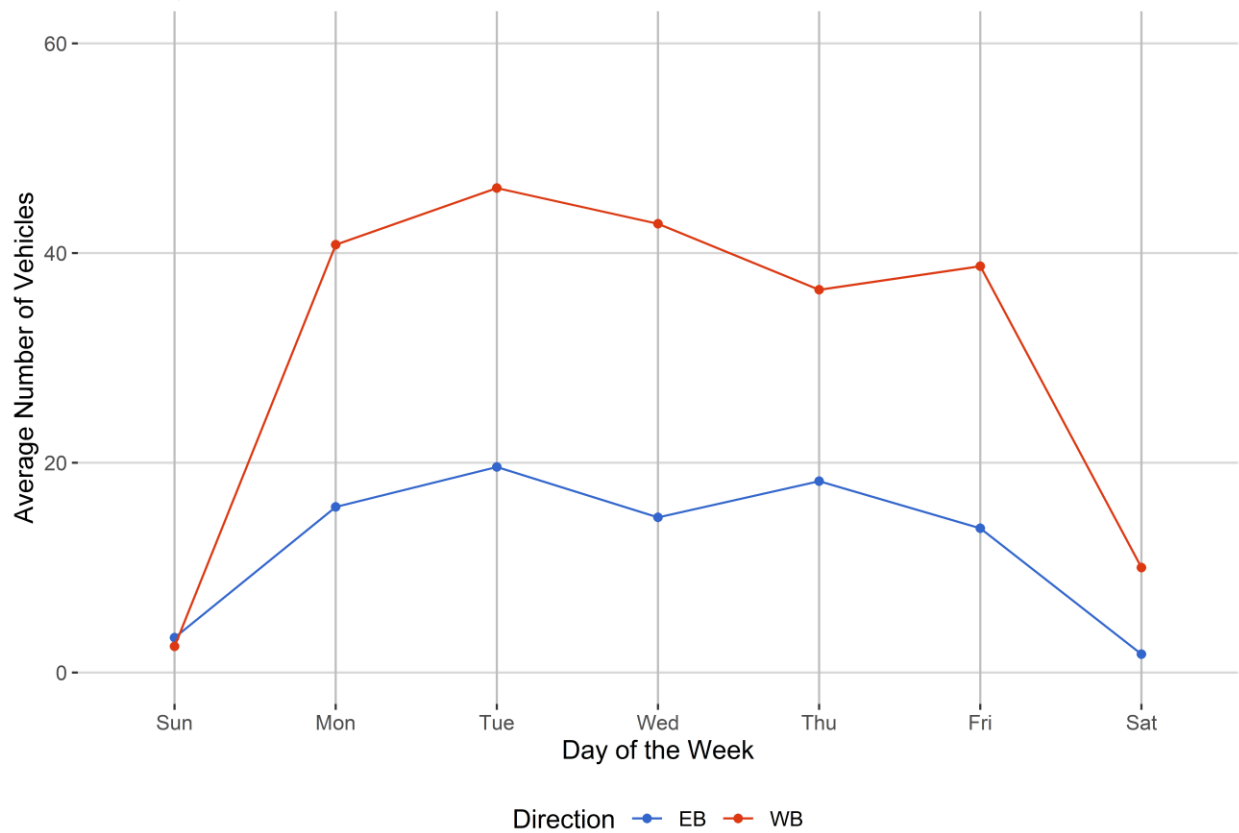


Figure 4 - Passenger Vehicles  
vs. Hour of the Day

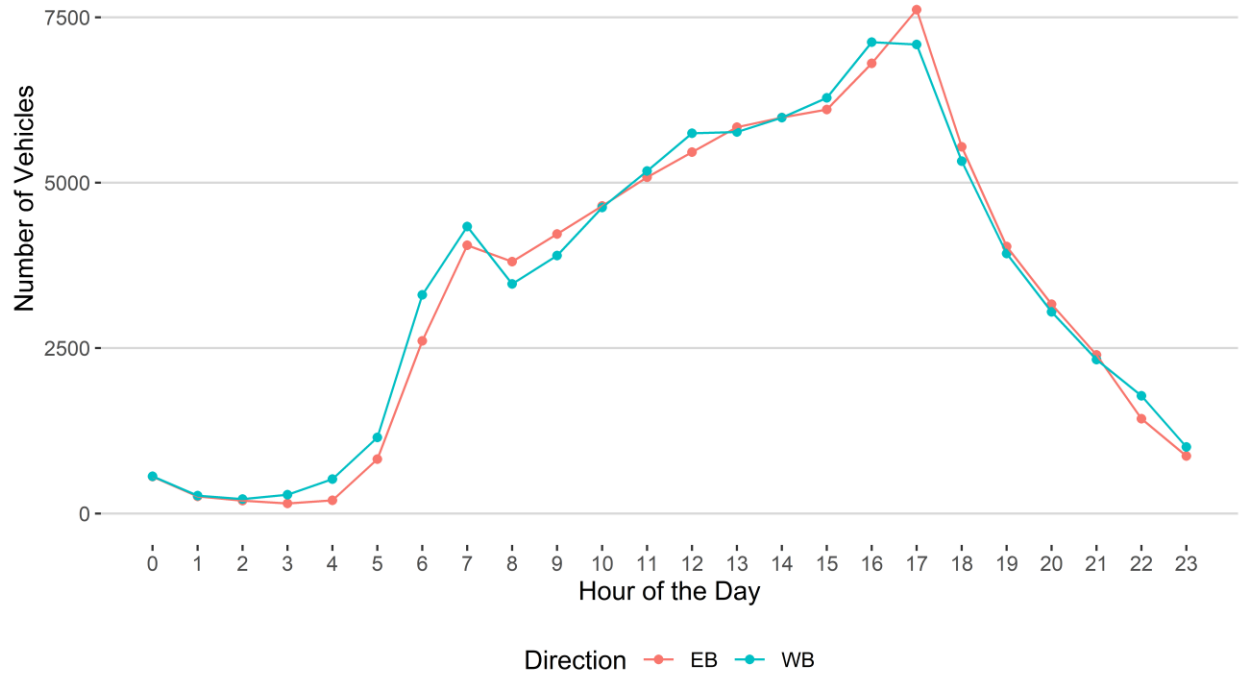


Figure 5 - Heavy Commercial Vehicles  
vs. Hour of the Day

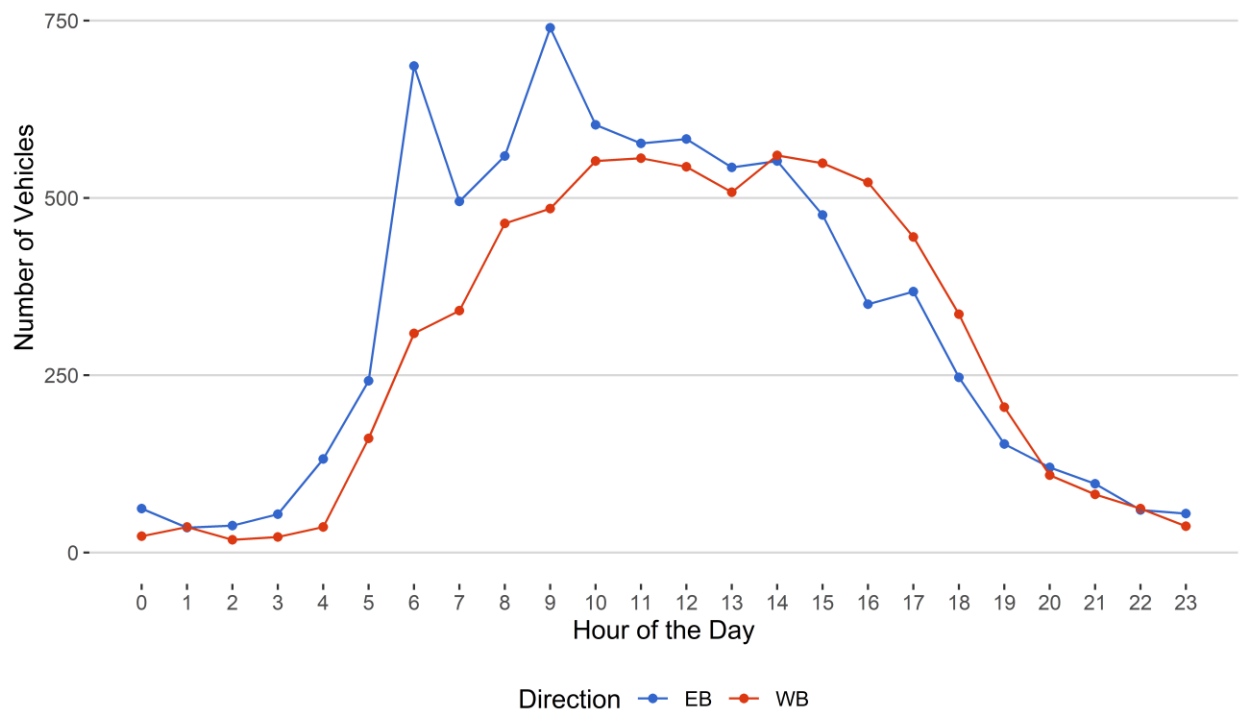




Figure 6 - Overweight Vehicles by Class  
vs. Hour of the Day

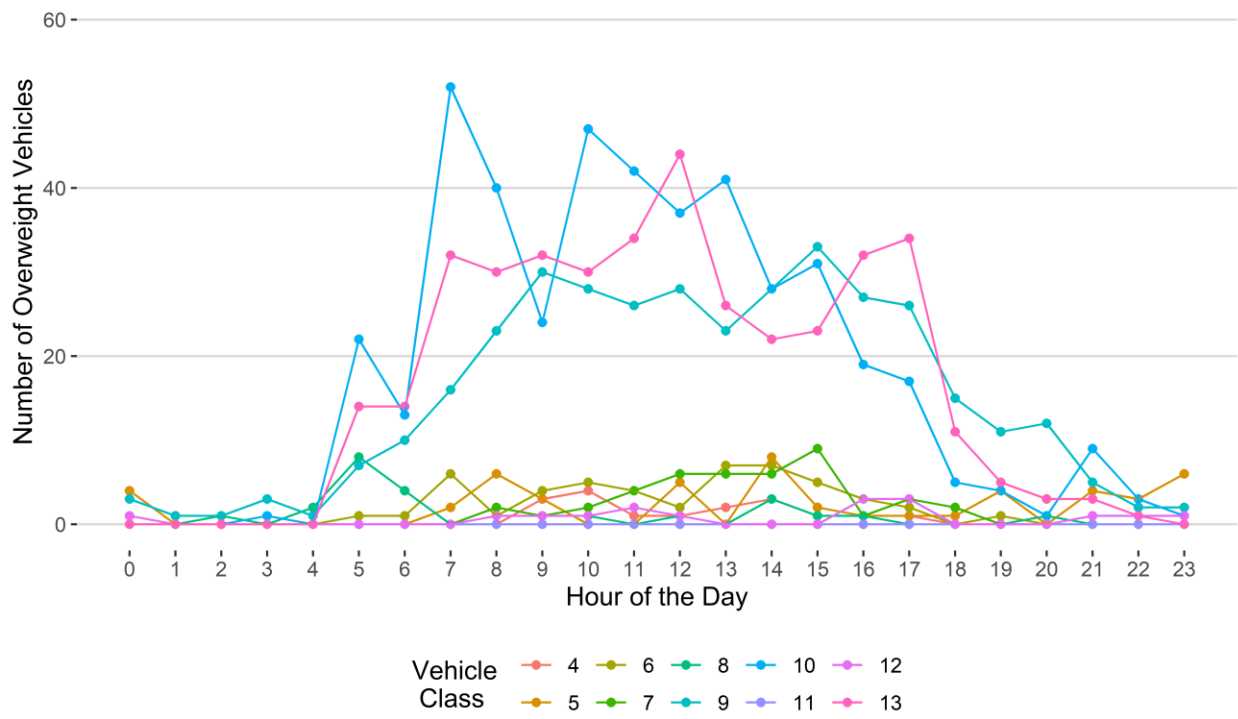


Figure 7 - Overweight Vehicles by Direction  
Hour of the Day

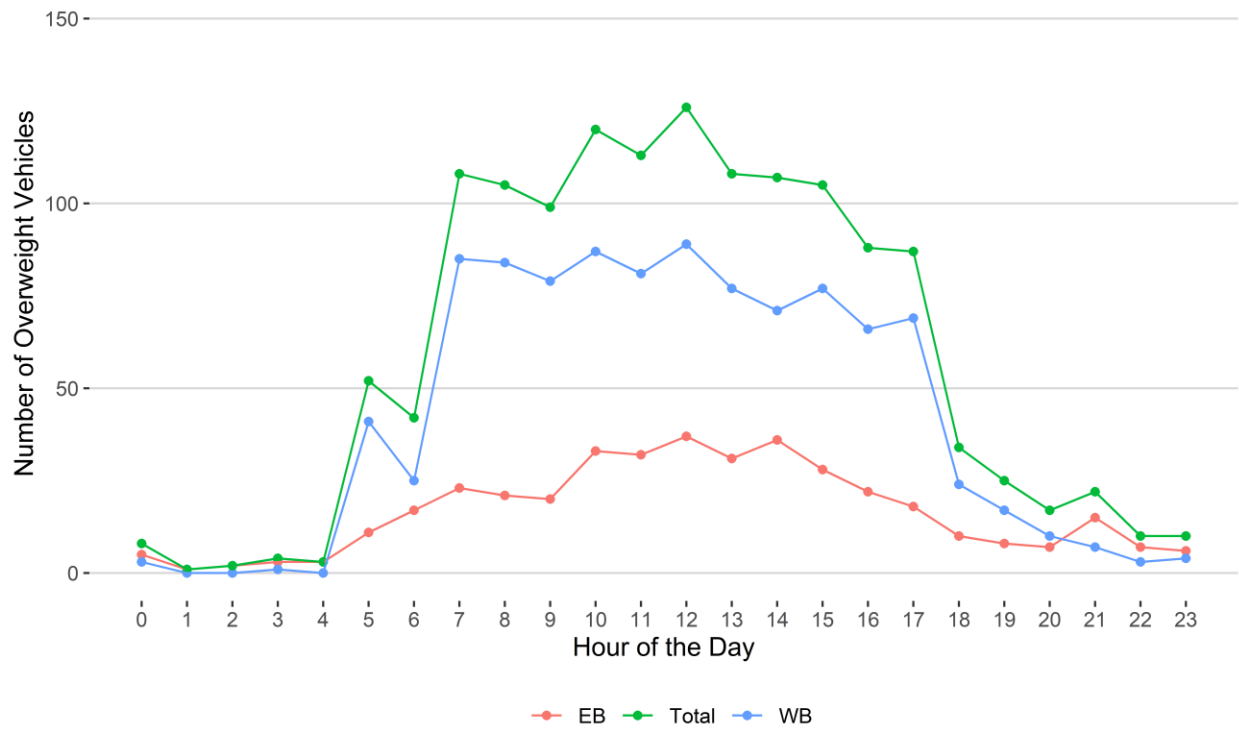
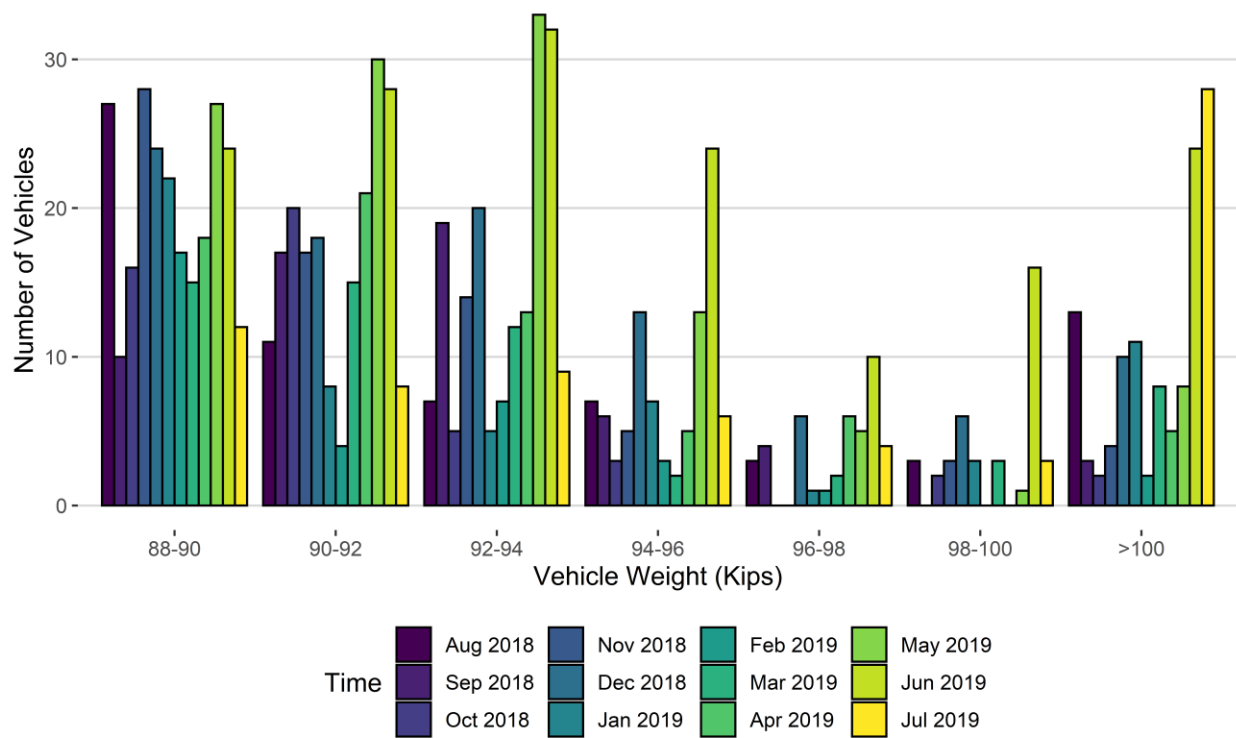
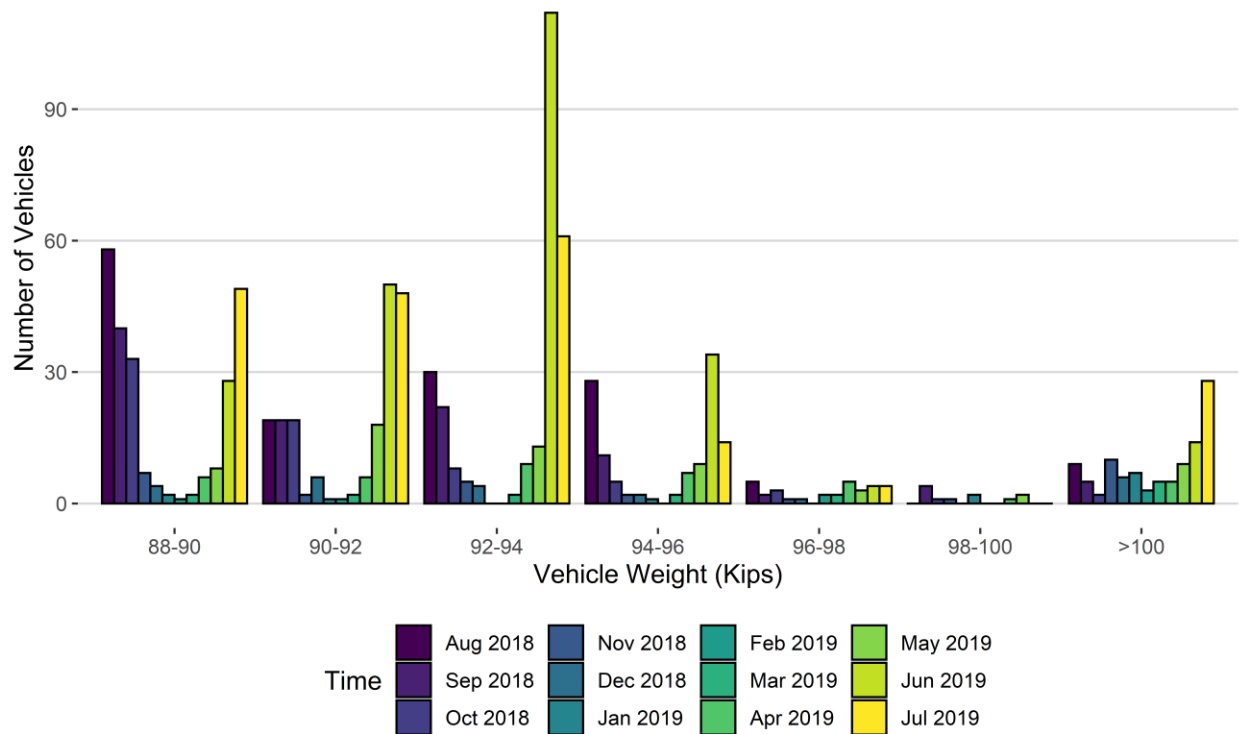


Figure 8 - Histogram of EB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019
88-90	27	10	16	28	24	22	17	15	18	27	24	12
90-92	11	17	20	17	18	8	4	15	21	30	28	8
92-94	7	19	5	14	20	5	7	12	13	33	32	9
94-96	7	6	3	5	13	7	3	2	5	13	24	6
96-98	3	4	0	0	6	1	1	2	6	5	10	4
98-100	3	0	2	3	6	3	0	3	0	1	16	3
>100	13	3	2	4	10	11	2	8	5	8	24	28
Total	71	59	48	71	97	57	34	57	68	117	158	70

Figure 8 - Histogram of WB Vehicles Over 88,000 Pounds for Current Month



Vehicle Weights (Kips)	Aug 2018	Sep 2018	Oct 2018	Nov 2018	Dec 2018	Jan 2019	Feb 2019	Mar 2019	Apr 2019	May 2019	Jun 2019	Jul 2019
88-90	58	40	33	7	4	2	1	2	6	8	28	49
90-92	19	19	19	2	6	1	1	2	6	18	50	48
92-94	30	22	8	5	4	0	0	2	9	13	112	61
94-96	28	11	5	2	2	1	0	2	7	9	34	14
96-98	5	2	3	1	1	0	2	2	5	3	4	4
98-100	0	4	1	1	0	2	0	0	1	2	0	0
>100	9	5	2	10	6	7	3	5	5	9	14	28
Total	149	103	71	28	23	13	7	15	39	62	242	204

Figure 8 - Class 9's and 10's by Direction  
vs Gross Vehicle Weight

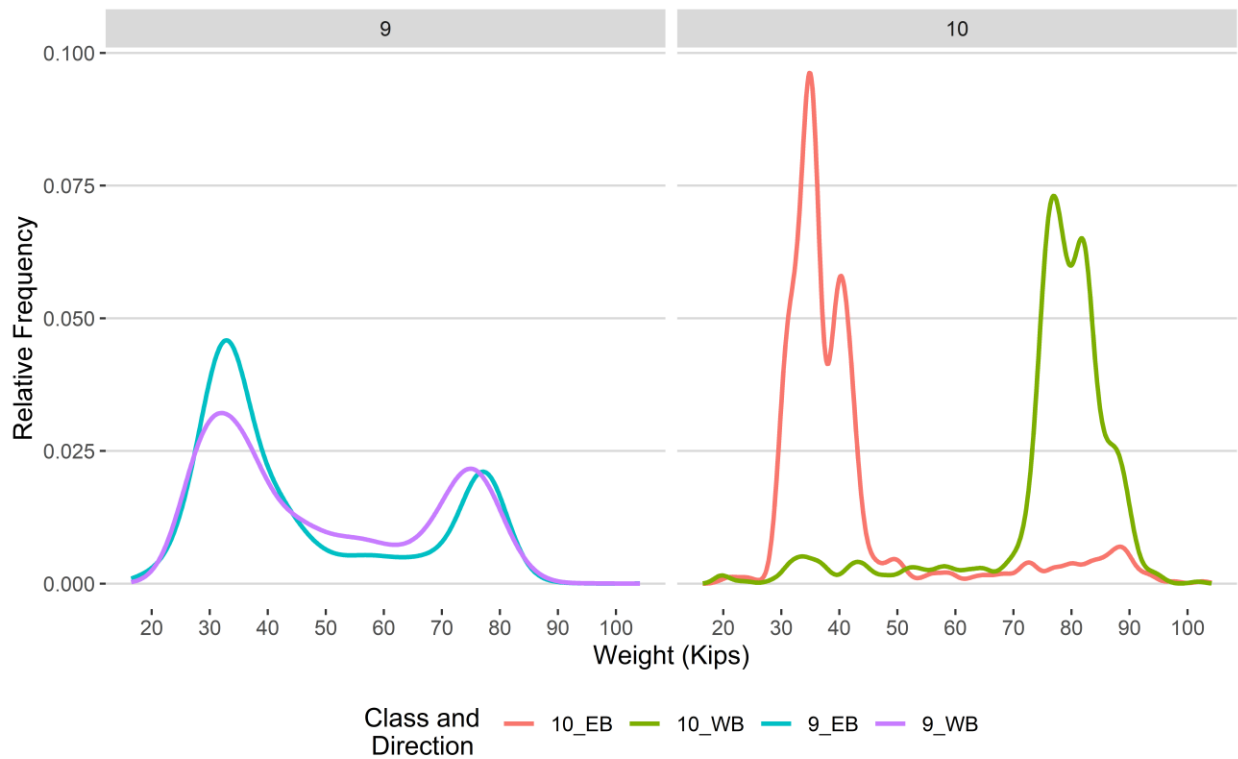


Figure 9 - Freight Percentage  
by Direction and Class

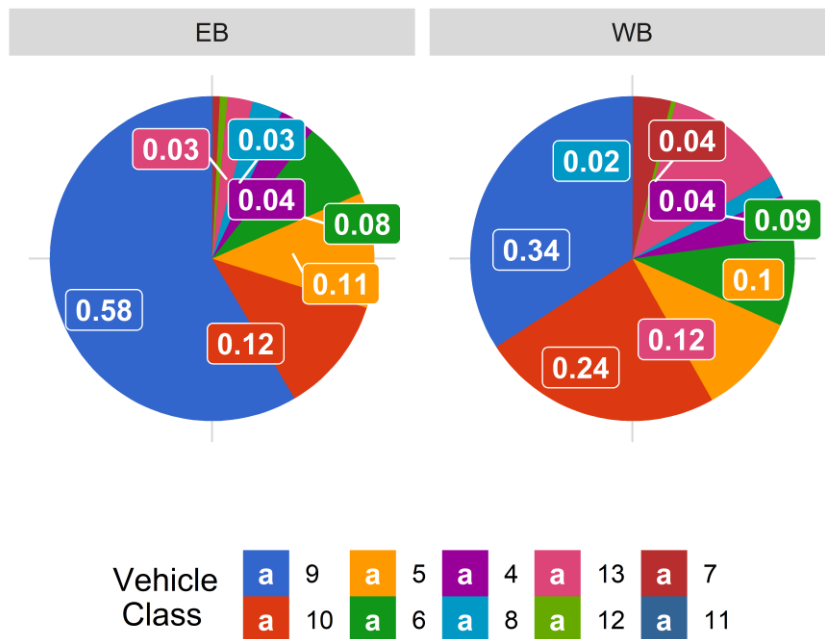




Figure 10 - Total Gross Vehicle Weight Percentage by Class and Lane

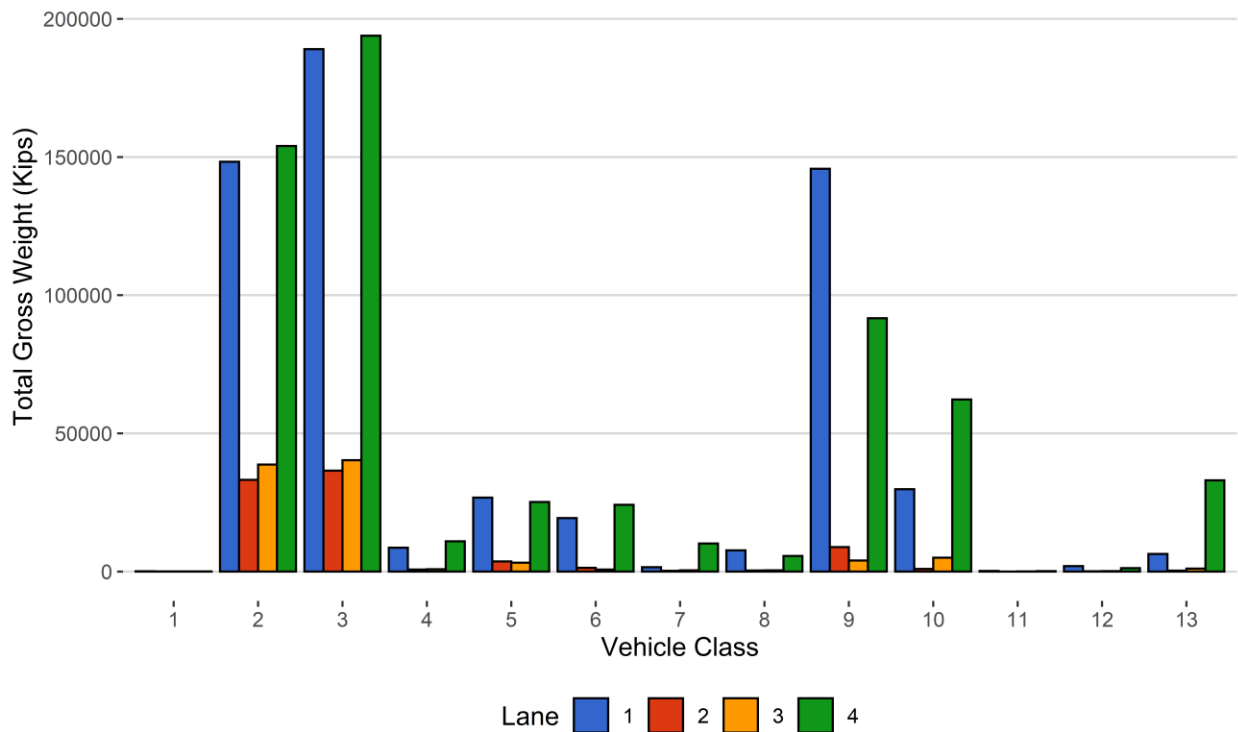


Figure 11 - Total Gross Vehicle Weight t

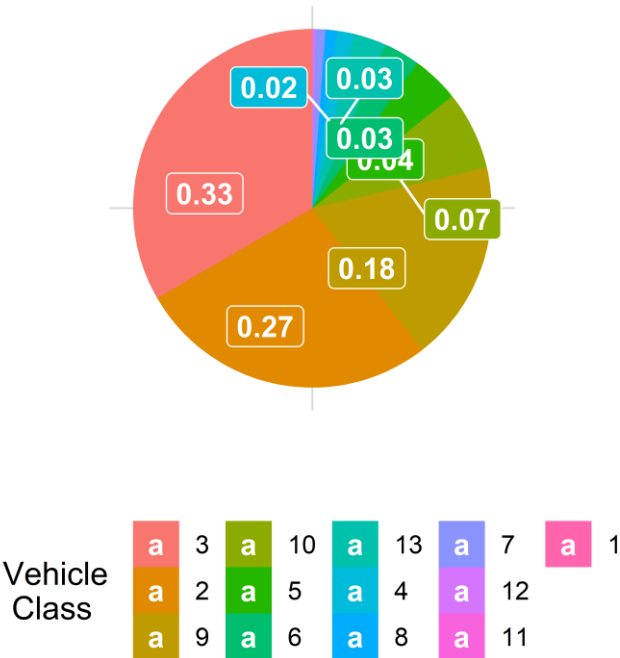


Figure 12 - Total ESALs by Class and Lane

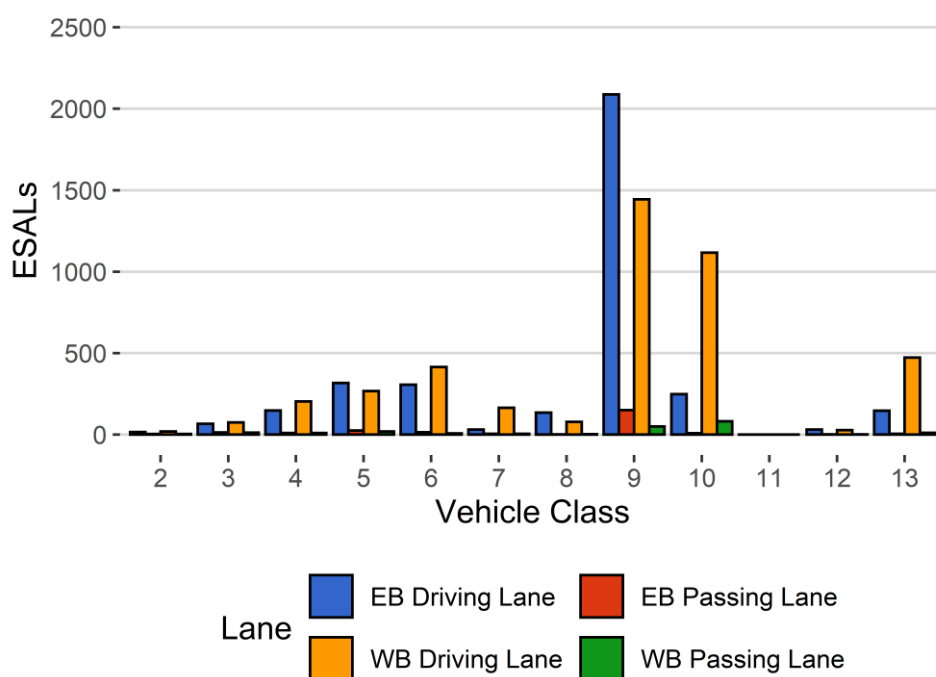
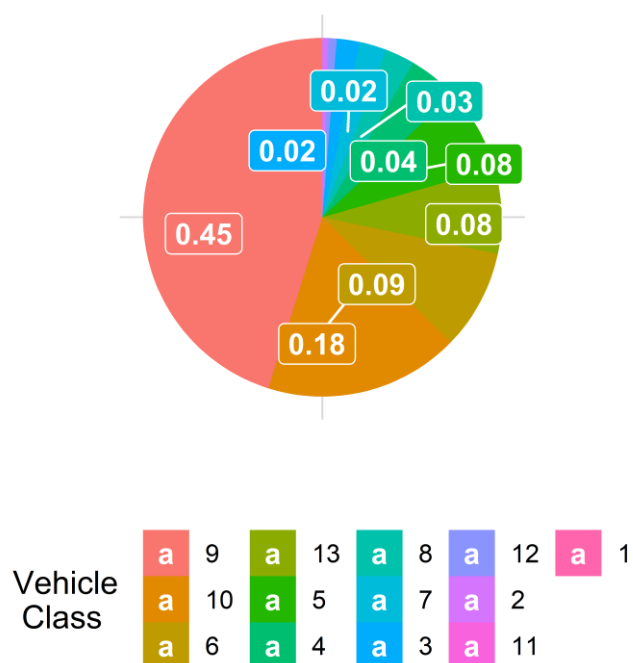


Figure 13 - ESALs by Class



**Table 1 Class 9 Front Axle Weight by Lane**

<i>Month</i>	<i>Lane 1 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 2 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 3 (Kips)</i>	<i>Front Axle +/- 9%</i>	<i>Lane 4 (kips)</i>	<i>Front Axle +/- 9%</i>
November 2014	NA	NA	11.17	0.00	10.87	0.00	11.45	0.00
December 2014	NA	NA	10.82	-3.20	10.70	-1.53	11.34	-0.95
January 2015	NA	NA	11.03	-1.29	10.84	-0.29	11.30	-1.33
February 2015	NA	NA	11.09	-0.79	10.68	-1.79	11.19	-2.29
March 2015	NA	NA	10.99	-1.66	10.48	-3.60	11.56	0.95
April 2015	NA	NA	11.09	-0.76	10.59	-2.56	11.77	2.78
May 2015	NA	NA	11.26	0.80	10.84	-0.28	11.91	3.99
June 2015	NA	NA	10.96	-1.90	11.03	1.45	12.00	4.78
July 2015	NA	NA	10.90	-2.43	11.13	2.38	12.08	5.52
August 2015	NA	NA	10.86	-2.82	11.03	1.47	12.08	5.47
September 2015	NA	NA	10.85	-2.92	10.68	-1.74	11.99	4.67
October 2015	NA	NA	10.65	-4.66	10.53	-3.13	11.79	2.97
November 2015	NA	NA	11.47	2.64	10.70	-1.58	11.61	1.41
December 2015	NA	NA	11.68	4.48	10.84	-0.32	11.47	0.13
January 2016	NA	NA	11.33	1.43	10.90	0.27	11.22	-2.05
February 2016	NA	NA	11.14	-0.34	10.80	-0.64	11.30	-1.29
April 2016	NA	NA	11.44	2.37	10.96	0.81	11.56	0.96
May 2016	NA	NA	11.38	1.80	10.62	-2.31	11.74	2.47
June 2016	NA	NA	10.83	-3.09	10.94	0.63	11.77	2.80
July 2016	NA	NA	10.80	-3.39	10.69	-1.66	11.83	3.28
August 2016	NA	NA	10.58	-5.29	10.96	0.83	11.81	3.09
September 2016	NA	NA	10.80	-3.32	10.88	0.07	11.71	2.22
October 2016	NA	NA	10.58	-5.35	10.58	-2.68	11.35	-0.85
November 2016	NA	NA	11.49	2.83	10.82	-0.52	11.44	-0.11
December 2016	10.79	0.00	11.27	0.83	10.55	-2.94	10.89	-4.89

January 2017	10.91	1.14	10.94	-2.14	10.40	-4.36	10.92	-4.67
February 2017	11.05	2.42	11.01	-1.51	10.53	-3.16	11.07	-3.37
March 2017	11.32	4.87	11.26	0.76	10.44	-3.97	11.23	-1.92
April 2017	11.44	5.99	11.47	2.65	10.66	-1.96	11.32	-1.17
May 2017	11.39	5.55	11.35	1.56	10.57	-2.80	11.45	0.02
June 2017	11.40	5.64	11.13	-0.40	11.00	1.16	11.53	0.67
July 2017	11.28	4.55	10.98	-1.72	10.78	-0.86	11.69	2.12
August 2017	11.38	5.49	11.16	-0.18	11.05	1.63	11.59	1.17
September 2017	11.21	3.85	10.76	-3.67	10.83	-0.35	11.47	0.12
October 2017	11.15	3.35	10.79	-3.47	10.49	-3.52	11.24	-1.87
November 2017	11.11	2.93	11.52	3.08	10.48	-3.64	10.86	-5.15
December 2017	10.95	1.49	11.08	-0.83	10.39	-4.38	10.85	-5.24
January 2018	11.01	2.05	11.66	4.31	10.23	-5.93	10.58	-7.61
February 2018	10.94	1.41	11.16	-0.18	10.07	-7.34	10.61	-7.39
March 2018	11.34	5.06	11.33	1.38	10.22	-5.97	10.96	-4.29
April 2018	10.98	1.76	11.14	-0.27	9.96	-8.36	11.13	-2.80
May 2018	11.00	1.95	10.89	-2.53	10.29	-5.31	11.32	-1.18
June 2018	10.99	1.85	10.93	-2.16	10.50	-3.40	11.42	-0.32
July 2018	11.03	2.26	10.72	-4.09	10.72	-1.41	11.49	0.29
August 2018	11.04	2.33	11.05	-1.15	10.56	-2.82	11.40	-0.47
September 2018	10.90	1.00	10.86	-2.81	10.24	-5.80	11.29	-1.44
October 2018	10.93	1.28	10.98	-1.73	10.19	-6.29	10.84	-5.34
November 2018	10.59	-1.87	11.24	0.54	10.10	-7.14	10.42	-9.02
December 2018	10.60	-1.78	11.43	2.31	10.20	-6.22	10.53	-8.09
January 2019	10.48	-2.92	11.50	2.95	10.03	-7.77	10.28	-10.23
February 2019	10.40	-3.67	10.80	-3.34	9.61	-11.58	10.30	-10.03
March 2019	10.76	-0.28	10.94	-2.13	9.77	-10.14	10.78	-5.86

April 2019	10.92	1.15	11.40	2.03	9.92	-8.75	10.99	-4.07
May 2019	11.05	2.38	11.16	-0.12	10.15	-6.66	11.06	-3.38
June 2019	11.16	3.38	11.08	-0.84	10.41	-4.27	11.10	-3.07
July 2019	11.15	3.33	10.79	-3.45	10.12	-6.89	11.18	-2.37



**Table 2 Vehicle Classification Data**

<i>Vehicle Class</i>	<i>Monthly Average Daily Volume</i>	<i>Monthly Total Volume</i>	<i>Monthly Total Volume Percentage</i>	<i>Monthly Total Overweight Vehicles</i>	<i>Monthly Total Overweight Percentage</i>
1	4	116	0.1	0	0
2	3084	95619	52	0	0
3	2356	73028	39.7	0	0
4	24	758	0.4	17	1.2
5	147	4569	2.5	50	3.6
6	47	1461	0.8	49	3.5
7	7	231	0.1	42	3
8	16	500	0.3	25	1.8
9	173	5367	2.9	361	26
10	53	1654	0.9	437	31.5
11	1	20	0	0	0
12	2	55	0	16	1.2
13	15	470	0.3	390	28.1
<b>TOTAL</b>	<b>5931</b>	<b>183848</b>	<b>100</b>	<b>1387</b>	<b>100</b>

**Table 3 Top 10 Gross Vehicle Weight, Class 9 and 10**

<i>Date</i>	<i>Day of Week</i>	<i>Time</i>	<i>Vehicle Class</i>	<i>Direction</i>	<i>Lane</i>	<i>GVW (lbs)</i>
2019-07-24	Wednesday	11:34:35	9	EB	1	104.14
2019-07-18	Thursday	12:29:01	10	EB	1	102.56
2019-07-18	Thursday	14:06:11	10	WB	4	101.72
2019-07-26	Friday	06:14:44	10	EB	1	97.61
2019-07-02	Tuesday	08:24:26	9	WB	4	96.14
2019-07-22	Monday	21:43:18	10	WB	4	95.55
2019-07-18	Thursday	20:02:21	10	WB	4	94.99
2019-07-01	Monday	19:18:56	10	WB	4	94.46
2019-07-15	Monday	10:32:02	10	WB	4	94.15
2019-07-17	Wednesday	21:15:45	10	EB	1	93.98

**Table 4 Freight Summary**

<i>Vehicle Class</i>	<i>Direction</i>	<i>Weight of Empty Vehicle (Kips)</i>	<i>Total Number of Vehicles</i>	<i>Number of Empty Vehicles</i>	<i>Percentage of Empty Vehicles</i>	<i>Total Weight of Vehicles with Freight (Kips)</i>	<i>Total Weight of Empty Vehicles (Kips)</i>	<i>Total Weight of Freight (Tons)</i>
4	EB	15	371	75	20.2	8583	749	2071
5	EB	8	2300	352	15.3	27873	2521	6144
6	EB	19	666	40	6	19937	684	4022
7	EB	11.5	40	0	0	1813	0	676
8	EB	31	271	140	51.7	5384	2609	662
9	EB	33	3327	1018	30.6	124290	30292	24046
10	EB	33.5	737	161	21.8	25681	5023	3193
11	EB	36.5	10	10	100	0	196	0
12	EB	36.5	34	4	11.8	1955	84	430
13	EB	31.5	71	1	1.4	6632	29	2213
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>7827</b>	<b>1801</b>	<b>****</b>	<b>222148</b>	<b>****</b>	<b>43458</b>
<i>Vehicle Class</i>	<i>Direction</i>	<i>Weight of Empty Vehicle (Kips)</i>	<i>Total Number of Vehicles</i>	<i>Number of Empty Vehicles</i>	<i>Percentage of Empty Vehicles</i>	<i>Total Weight of Vehicles with Freight (Kips)</i>	<i>Total Weight of Empty Vehicles (Kips)</i>	<i>Total Weight of Freight (Tons)</i>
4	WB	15	372	46	12.4	11164	588	3137
5	WB	8	2179	240	11	26579	1763	5534
6	WB	19	766	48	6.3	24040	828	5199
7	WB	11.5	186	0	0	10564	0	4212
8	WB	31	219	126	57.5	3521	2521	319
9	WB	33	1935	497	25.7	81118	14477	16832
10	WB	33.5	885	20	2.3	66665	564	18844
11	WB	36.5	10	10	100	0	183	0
12	WB	36.5	20	2	10	1312	42	327
13	WB	31.5	390	0	0	34029	0	10872
<b>TOTAL</b>	<b>****</b>	<b>****</b>	<b>6962</b>	<b>989</b>	<b>****</b>	<b>258991</b>	<b>****</b>	<b>65276</b>
<b>GRAND TOTAL</b>	<b>****</b>	<b>****</b>	<b>14789</b>	<b>2790</b>	<b>484</b>	<b>481139</b>	<b>63153</b>	<b>108734</b>

**Table 5 Gross Vehicle Weight by Class and Lane**

<i>Vehicle Class</i>	<i>EB Driving Lane</i>	<i>EB Passing Lane</i>	<i>WB Passing Lane</i>	<i>WB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>
1	83	11	11	54	159	0
2	148306	33147	38686	154011	374149	27.1
3	189017	36486	40258	193896	459656	33.4
4	8618	714	847	10905	21084	1.5
5	26733	3660	3201	25141	58736	4.3
6	19312	1310	705	24162	45489	3.3
7	1575	238	404	10160	12376	0.9
8	7642	352	402	5640	14036	1
9	145733	8849	3960	91635	250177	18.2
10	29789	915	4984	62244	97933	7.1
11	196	0	23	160	378	0
12	1932	107	136	1218	3393	0.2
13	6375	285	1028	33001	40690	3
<b>TOTAL</b>	<b>585311</b>	<b>86073</b>	<b>94645</b>	<b>612227</b>	<b>1378256</b>	<b>100</b>
<b>GVW/LANE</b>	<b>42.47</b>	<b>6.25</b>	<b>6.87</b>	<b>44.42</b>	<b>100</b>	<b>0.01</b>

**Table 6 ESALs by Class and Lane and Flexible ESAL Factors**

<i>Vehicle Class</i>	<i>EB Driving Lane</i>	<i>EB Passing Lane</i>	<i>WB Passing Lane</i>	<i>WB Driving Lane</i>	<i>Total</i>	<i>Percentage</i>	<i>Flexible ESAL Factor</i>
1	0	0	0	0	0	0	0.0087
2	16	4	4	19	45	0.54	0.001
3	67	14	13	75	169	2.04	0.0048
4	148	10	9	204	372	4.5	1.01
5	317	26	20	268	630	7.62	0.28
6	306	15	8	415	744	9	1.05
7	31	5	6	164	206	2.49	1.81
8	135	2	3	79	219	2.65	0.9
9	2088	150	50	1444	3732	45.13	1.43
10	248	9	82	1116	1456	17.6	1.8
11	0	0	0	0	0	0	0.38
12	31	1	2	28	62	0.75	2.07
13	147	5	11	473	636	7.69	2.73
<b>TOTAL</b>	<b>3535</b>	<b>241</b>	<b>207</b>	<b>4286</b>	<b>8270</b>	<b>100</b>	<b>13</b>
<b>ESALS/LANE</b>	<b>42.7</b>	<b>2.9</b>	<b>2.5</b>	<b>51.8</b>	<b>100</b>	<b>-</b>	<b>-</b>



**Table 7 Site Summary: Volume and Vehicle Class**

<i>Month</i>	<i>Total Volume</i>	<i>Monthly ADT</i>	<i>Monthly HCAD T</i>	<i>Passenger Vehicles</i>	<i>Passenger Vehicles %</i>	<i>Heavy Commercial Vehicles</i>	<i>Heavy Commercial Vehicles %</i>	<i>Heavy Commercial Vehicles in Driving Lane %</i>	<i>Heavy Commercial Vehicles in Passing Lane %</i>
Aug 2018	189491	6113	576	171625	90.6	17865.9	9.4	91.5	8.5
Sep 2018	168517	5617	525	152759	90.6	15757.7	9.4	91.2	8.8
Oct 2018	175064	5647	711	153012	87.4	22051.6	12.6	89.2	10.8
Nov 2018	146400	5048	462	132552	90.5	13847.6	9.5	91.4	8.6
Dec 2018	125409	4645	311	115779	92.3	9630.4	7.7	92.7	7.3
Jan 2019	133289	4300	300	123974	93	9315.4	7	91	9
Feb 2019	119410	4265	291	111272	93.2	8137.7	6.8	90.3	9.7
Mar 2019	141065	4550	354	130102	92.2	10963.3	7.8	91.3	8.7
Apr 2019	153490	5116	486	138917	90.5	14572.9	9.5	91.5	8.5
May 2019	173668	5521	509	157896	90.9	15771.7	9.1	92.1	7.9
Jun 2019	174449	5815	447	161042	92.3	13407.1	7.7	91.4	8.6
Jul 2019	183848	5953	487	168763	91.8	15085	8.2	92	8
<b>TOTAL</b>	<b>1884100</b>	<b>-</b>	<b>-</b>	<b>1717693</b>	<b>-</b>	<b>166406</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>157008</b>	<b>5216</b>	<b>455</b>	<b>143141</b>	<b>91</b>	<b>13867</b>	<b>9</b>	<b>91</b>	<b>9</b>

###ESALs

<i>Month</i>	<i>ESALS EB Passing Lane</i>	<i>ESALS EB Driving Lane</i>	<i>ESALS WB Driving Lane</i>	<i>ESALS WB Passing Lane</i>	<i>Total ESALS</i>	<i>Driving Lane ESALS %</i>	<i>Passing Lane ESALS %</i>	<i>Pavement Life Decrease Months</i>
Aug 2018	4167	399	303	5520	10389	93	7	2.1
Sep 2018	3524	307	339	5483	9653	93	7	3.5
Oct 2018	4662	506	752	8373	14293	91	9	2
Nov 2018	3290	378	262	3812	7741	92	8	1.3
Dec 2018	3015	294	125	1999	5432	92	8	6.9

Jan 2019	2027	357	125	1772	4281	89	11	6.7
Feb 2019	1543	263	101	1555	3462	89	11	0
Mar 2019	3281	317	107	2161	5866	93	7	1.7
Apr 2019	3972	446	157	3323	7898	92	8	1.3
May 2019	4537	378	225	3688	8828	93	7	1.9
Jun 2019	5735	566	376	7731	14407	93	7	1
Jul 2019	3580	242	207	4289	8318	95	5	4.4
<b>TOTAL</b>	<b>43334</b>	<b>4451</b>	<b>3078</b>	<b>49705</b>	<b>100568</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>3611</b>	<b>371</b>	<b>256</b>	<b>4142</b>	<b>8381</b>	<b>92</b>	<b>8</b>	<b>3</b>

### ###Gross Vehicle Weight

<i>Month</i>	<i>GVW EB Passing Lane</i>	<i>GVW EB Driving Lane</i>	<i>GVW WB Passing Lane</i>	<i>GVW WB Driving Lane</i>	<i>Total GVW Kips</i>
Aug 18	641388	100345	97626	700129	1539488
Sep 18	557433	83173	93969	617052	1351626
Oct 18	660765	114150	125855	750518	1651289
Nov 18	502997	76986	76124	519011	1175118
Dec 18	431771	60619	59298	411800	963489
Jan 19	348573	60504	57163	381731	847971
Feb 19	298570	50034	51160	343533	743297
Mar 19	442275	70004	63946	420794	997018
Apr 19	538073	81895	76332	524296	1220597
May 19	604480	89811	94234	571951	1360476
Jun 19	848215	167986	182059	1169704	2367964
Jul 19	586947	86142	94663	612493	1380246
<b>TOTAL</b>	<b>6461487</b>	<b>1041648</b>	<b>1072430</b>	<b>7023014</b>	<b>15598579</b>
<b>AVERAGE</b>	<b>538457</b>	<b>86804</b>	<b>89369</b>	<b>585251</b>	<b>1299882</b>

### ###Overweight Vehicles

<i>Month</i>	<i>Total Number of Overweight Vehicles</i>	<i>Overweight / Total Volume</i>	<i>Overweight / Heavy Commercial Volume</i>	<i>Number Over 88,000 lbs</i>	<i>Number Over 98,000 lbs</i>
Aug 2018	2231	1.2	12.5	220	25
Sep 2018	1839	1.1	11.7	162	12
Oct 2018	2676	1.6	12.3	120	8
Nov 2018	872	0.6	6.2	99	18
Dec 2018	697	0.5	6.6	121	23
Jan 2019	502	0.4	5.5	70	23
Feb 2019	363	0.3	4.7	41	5
Mar 2019	598	0.4	5.5	72	16
Apr 2019	691	0.5	4.8	107	11

May 2019	1078	0.6	6.9	179	20
Jun 2019	2600	0.8	8.4	404	56
Jul 2019	1396	0.8	9.3	274	59
<b>TOTAL</b>	<b>15543</b>	<b>-</b>	<b>-</b>	<b>1869</b>	<b>276</b>
<b>AVERAGE</b>	<b>1295.2</b>	<b>0.7</b>	<b>7.9</b>	<b>155.8</b>	<b>23</b>

### ###Freight

<i>Month</i>	<i>EB Freight Tons</i>	<i>WB Freight Tons</i>	<i>Total Freight</i>	<i>EB Freight %</i>	<i>WB Freight %</i>
Aug 2018	51937	91718	143655	36.2	63.8
Sep 2018	45085	79834	124919	36.1	63.9
Oct 2018	66772	132772	199544	33.5	66.5
Nov 2018	48667	64472	113139	43	57
Dec 2018	42425	31221	73646	57.6	42.4
Jan 2019	30643	25215	55858	54.9	45.1
Feb 2019	22499	22257	44756	50.3	49.7
Mar 2019	44588	31107	75695	58.9	41.1
Apr 2019	56072	57075	113146	49.6	50.4
May 2019	60197	60434	120631	49.9	50.1
Jun 2019	71572	121297	192869	37.1	62.9
Jul 2019	43458	65276	108734	40	60
<b>TOTAL</b>	<b>583914</b>	<b>782677</b>	<b>1366591</b>	<b>-</b>	<b>-</b>
<b>AVERAGE</b>	<b>48659.5</b>	<b>65223.1</b>	<b>113882.6</b>	<b>45.6</b>	<b>54.4</b>